



"PATTERN OF BLINDNESS AMONG PATIENTS SEEKING VISUAL DISABILITY CERTIFICATE IN TERTIARY CARE HOSPITAL"

Ophthalmology

Dr. Alpa Rabadia

M.S. (Ophthalmology), Senior Resident, Department of Ophthalmology, Shri M.P. Shah Govt. Medical College, Jamnagar.

Dr. Devdatta Gohel*

M.S. (Ophthalmology), Head of Department, Department of Ophthalmology, Shri M.P. Shah Govt. Medical College, Jamnagar. *Corresponding Author

ABSTRACT

Aims: To analyse the causes of visual impairment amongst the patients coming for the visual handicap certificate at Guru Gobind Singh Government Hospital, Jamnagar, Gujarat and its application in eye health planning to prevent the blindness. **Methods And Materials:** Cross-sectional study of patients seeking visual disability certificate from January 2019 to December 2020 was done. Severity of visual impairment was calculated as per the guidelines of Ministry of Social Justice and Empowerment 1999. Cause was ascertained after detailed examination which included slit-lamp examination, direct ophthalmoscopy, indirect ophthalmoscopy, slit-lamp biomicroscopy with 90D lens, Humphrey visual field analysis wherever necessary. **Result:** Of the 312 patients, category 0-12(3.84%), category 1-20 (6.41%), category 2-25 (8.01%), category 3-24 (7.69%), category 4-145(46.47%), one eyed-86(27.56%). Male preponderance was seen (63.78%). The causes were congenital malformations-64 (20.52%), phthisis bulbi-55 (17.63), refractive errors with amblyopia-54 (17.30%), corneal opacity related to trauma and infectious keratitis 42 (13.46%), retinitis pigmentosa-40 (12.83%), glaucoma-38 (12.17%), ARMD-8 (2.56%), miscellaneous-11 (3.53%). The causes were preventable in 43.68%. **Conclusion:** Visual handicap registers are useful for the rehabilitation of visually impaired individuals and to assess the pattern or causes of blindness in particular area. The most common etiological factors causing visual impairment in our study are preventable so we propose the empowerment of the school health system and general health delivery system, early detection of amblyogenic factors and its timely treatment, applying strict safety precautions to factory workers who are prone to ocular injuries and increased safety for road traffic.

KEYWORDS

Visual Disability Certificate, Congenital Malformations

INTRODUCTION

Blindness is a devastating physical condition with deep emotional and economic implications. The consequences affect not only the individual but also the family and the community. According to WHO 180 million people worldwide are visually disabled of whom nearly 45 million are blind. Of the estimated 45 million, India alone has 8.9 million blind people, which comes to about one fifth of the total in the world. The problem of blindness in India is not only of its gigantic size, but also of its causes, which are largely preventable. About 80% of blindness is potentially preventable.^{1,5}

The current study is undertaken to study, ascertain the cause of visual impairment and to identify the leading causes of preventable blindness among the patients seeking visual disability certificate. The prevention of blindness is an international priority and its planning requires contemporary data regarding its incidence and causes, based on which priorities for its prevention, treatment and management can be identified.

MATERIALS AND METHODS

Cross-sectional study of patients seeking visual disability certificate from January 2019 to December 2020 was done. Data was collected using pre-structured pretested proforma. Sociodemographic profile including the educational status and occupation was obtained. Cause of blindness was ascertained after detailed examination which included slit-lamp examination, direct ophthalmoscopy, indirect ophthalmoscopy, slit-lamp biomicroscopy with 90D lens, applanation tonometry, Humphrey visual field analysis wherever necessary and feasible. Severity of visual impairment was calculated as per the guidelines of Ministry of Social Justice and Empowerment 1999. The variables of interest were age, gender, occupation, percentage of disability and the cause of visual disability.

Table 1: Categories Of Visual Disability (classification Currently In Use)

Category	All With Best Corrected Visual Acuity		Percentage impairment
	Better eye	Worse eye	
0	6/9 to 6/18	6/24-6/36	20%
I	6/18-6/6	6/60 to PL	40%
II	6/60 to 4/60 or Field of vision 10° to 20°	3/60 to No PL	75%
III	6/60 to 4/60 or Field of vision <10°	FC 1 feet to No PL	100%

IV	FC 1 feet to No PL or Field of vision <10°	FC 1 feet to No PL or Field of vision <10°	100%
V (One eyed person)	6/6	FC 1 feet to No PL	30%

PL-Perception of light

FC: Finger counting

Category I-IV Visually handicapped person

Table 2 : Category Wise Distribution

S. No.	Category	No of Applicants
1	O (20%)	12
2	I (40%)	20
3	II(75%)	25
4	III(100%)	24
5	IV (100%)	145
6	V (30%)	86
	Total	312

Table 3 : Age Distribution

Age (years)	Number of Visually Disabled
< 20	79 (25.32%)
21- 40	83 (26.60%)
41-65	115 (36.86%)
>65	35 (11.22%)

Table 4 : Causes Of Visual Disability

Causative Factor	Number of Visually Disabled
Congenital malformations	64 (20.52%)
Phthisis bulbi	55(17.63%)
Refractive errors with amblyopia	54 (17.30%)
Corneal opacity related to trauma & infectious keratitis	42 (13.46%)
Retinitis pigmentosa	40 (12.83%)
Glaucoma	38 (12.17%)
ARMD	8 (2.56%)
Miscellaneous	11 (3.53%)

RESULT

Visual disability of 100% was noted in 54.17% (169). 8.01% (25) had 75% visual disability, 6.41% (20) had 45% visual disability, 27.56% (86) of the patients were one eyed with visual disability of 30%, 3.85% (12) had 20% visual disability (Table-2).

Most of the patients, 36.86% (115) were in age group of 41-65 years, followed by age group of 21-40 years with 26.60% (83), 25.32% (79) were in age group of <20 years and 11.22% (35) were above 65 years. (Table-3).

The causes were congenital malformations - 64(20.52%), phthisis bulbi - 55(17.63), refractive errors with amblyopia - 54(17.30%), corneal opacity related to trauma and infectious keratitis 42(13.46%), retinitis pigmentosa - 40(12.83%), glaucoma - 38(12.17%), ARMD - 8(2.56%), miscellaneous - 11(3.53%). The causes were preventable in 43.68%. (Table - 4).

Out of the 312 patients, 54.77% (202) were males and 45.25% (110) were females with M:F ratio being 1.8:1.

Majority 68.91% (215) were unemployed, 19.23% (60) were students, 11.85% (37) were self-employed.

DISCUSSION

The impact of visual loss on the personal, economic, and social life of an individual is profound, and when the prevalence of blindness in communities is high like in India, the consequences become a significant public issue.^{2,5} Data collected in this study may be useful to the governmental agencies to plan the strategies for rehabilitation and prevention of blindness. Several observations of our study conform to those of previous studies at different geographical settings.

In our study, male preponderance was seen. This could be attributed to the fact that certification system is institution based and females may not be able to access it due to social obstacles. This finding is in accordance with the findings of the study conducted by Kareemsab et al.,⁶ Joshi et al.⁷ and Gosh et al.⁸ However, in the 58th round of the NSSO survey⁹, nearly 54% of the total visual impaired individuals were females and the remaining 46% were males, depicting a female gender bias.

In our study, middle aged patients were in a significant majority compared to the young. Most of the patients were in the age group of 41-65 years and in 21-40 years age group. This suggests that certification is sought for employment and conveyance benefits which are more likely to serve the purpose of young elders.

Unemployment in our study was consistent with the findings of the NSSO survey,⁹ which observed that 80% of the blind individuals in the rural areas are without any source of income. Similar findings were noted in study by Gosh et al.⁸

In this study, patients with 100% disability formed the majority group. A similar finding was noted by Kareemsab et al.,⁶ Gosh et al.⁸ and Bunce et al.¹⁰

Congenital malformations was the leading cause for visual disability in our study followed by phthisis bulbi and refractive errors. Followed by retinitis pigmentosa. This is similar to the findings of the study by Kareemsab et al.,⁶ Ghosh et al.⁹

With better health education, eye care and compulsory periodic school eye screening their incidence can be reduced.

Limitation of the study is that the exact prevalence of visual disability cannot be obtained as the registration is voluntary. Another limitation was that the rates could not be calculated as we had no specific population denominator as this was a hospital based survey, and we depended only on the number of cases. Since it is not a community based survey, it may not give the true reflection of the distribution of various causes of visual disability.

CONCLUSION

Visual handicap registers are useful for the rehabilitation of visually impaired individuals and to assess the pattern or causes of blindness in particular area. This study certainly gives an idea about the most prevalent causes for visual disability and hence helps to plan preventive measures. So we propose the empowerment of the school health system and general health delivery system, early detection of amblyogenic factors and its timely treatment, applying strict safety precautions to factory workers who are prone to ocular injuries and increased safety for road traffic.

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